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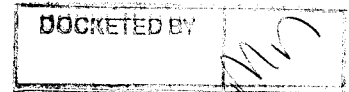
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Arizona Corporation Commission
DOCKETED

MAY 21 2010

May 20, 2010



Arizona Corporation Commission

Chairman Mayes, Commissioners Kennedy, Newman, Pierce, Stump & Director Olea

Transmitted Via email

Subject: May 13, 2010 ACC Open Meeting Aggregated Net Metering (ANM) Discussion

Dear Chairman, Commissioners and Utilities Director Olea,

I am writing to commend the Commission for their responsible leadership and decision to conduct a workshop within the next few months to explore the merits of ANM. I am also writing to provide clarifications regarding concerns identified by the Commission during their discussion of the ANM/Tucson Electric Power Company (TEP) pilot project proposed by Commissioner Newman.

Although many Utility Customers utilize multiple meters, the current *Net Metering* rules limit interconnections to just one meter and it is rare to find one meter with the load (scale) and adjacent property required to make Net Metering financially feasible; most Commercial Customer loads are in urban locations. For example, Pima County has about 800 meters to service our 55 megawatts (mw) of annual usage and about 80% of that is to support "office" requirements in downtown Tucson or other developed areas. In very general terms, ANM is intended to enable Customers to aggregate all of their metered loads, use land remote from those load/use points to establish *renewable energy*(RE) electric generation facilities that do not exceed the aggregated load, and to subsequently credit that power to selected meters.

Throughout this correspondence unless otherwise indicated *Photovoltaic (PV)* solar technology is assumed. ANM fundamentals also recognize that *Ratepayer* and *Taxpayers* are the same persons; that local Government and School Districts operational electricity costs are funded by those persons; that it would be appropriate and provide direct benefit to ratepayers to use RES funds provided by those persons to reduce and control local Government and School District costs; and that non-profit Governments and School Districts represent and provide services to most all persons and businesses that comprise our communities and are therefore not "special interests" in the typical ratemaking context.

Following are clarifications regarding multiple items discussed at the May 13th, 2010 ACC Open Meeting:

INITIAL RESTRICTION OF ANM USE TO GOVERNMENTS/SCHOOL DISTRICTS

It is not necessary to restrict ANM eligibility to just local governments and school districts. These Customers were suggested because they are not "special Interests" in the typical ACC ratemaking context and ratepayer RES funds used to establish solar electric facilities would control/reduce government/school operational costs and potential tax or fee increases thereby providing direct benefit to ratepayers. The proposed initial restriction also recognizes that RES funds are finite, that there are relatively few Customers that have multiple meters and the aggregated load necessary to achieve the scale enabling financially feasible power purchase agreement (PPA) costs and that within almost all communities located throughout Arizona, Governments and School Districts are significant power users, many already own land suitable for the establishment of large scale facilities further leveraging incremental value from prior investments of public funds. Emphasis on this relatively small group of customers would also reduce utility engineering and transactions costs which if excessive could increase base rate costs.

The workshop discussion can and should facilitate discussion and determination regarding which Customers should be initially eligible for ANM deployment if approved.

CONCERNS REGARDING THE AMOUNT OF RES SUBSIDY REQUIRED BY ANM PROJECTS

As the following examples will illustrate, ANM facilities will be primarily funded by the Customer's existing electricity expense funds, not RES funds, and result in significantly more productive use of RES funds and generation of much more power than any other existing ACC approved PV generation subsidy program, including the Utility Wholesale RES.

In Tucson Electric Power Company (TEP) territory typical historical commercial and residential scale (PBI & UFI) subsidies for PV electricity generation have ranged from \$0.18 to \$0.16/kilowatt-hour (kWh).

Utility Use of RES \$0.10/kwh

The 5-year amortization schedule included in the Utilities Division March 30th, 2010 memo to THE COMMISSION (09-0340 ACC 4/26/10 Open Meeting Item 8) regarding the 3.4MW Tucson Electric Power Company owned solar facilities indicates *Total Annual Costs* of about \$17.6M. Assuming an average of 2,000,000 kWh of output per megawatt per year for the 20-year term that results in a cost of about \$0.13/kwh.

Based on my May 12th, 2010 discussion with TEP Renewable Energy Division Staff, TEP will sell that power to Retail Customers and recover about \$0.03/kwh of the \$0.13/kwh solar facility energy cost from the energy cost portion of the base rate and will "buy" the Solar REC's using wholesale RES funds at \$0.10/kwh to recover the remaining solar facility energy cost.

ANM Use of RES \$0.04/kwh

At multi-megawatt scale Pima County can establish solar facilities on our public lands located within/adjacent to the distribution grid via PPA at \$0.13/kwh and less. Pima County's average utility electricity cost averages \$0.10/kwh. If Pima County funded the PPA energy cost utilizing \$0.09/kwh from existing tax based electricity budget they would require only a \$0.04/kwh RES subsidy.

ANM can generate 2.5 times the amount of Renewable Energy per RES\$ than could be generated by the Utility. Even if a \$0.01/kwh "transport" charge was considered appropriate, ANM would still

generate significantly more renewable energy and direct benefit to ratepayers than Utility use of the wholesale RES\$.

TEP Commercial Distributed Generation PBI funds for 2010 are \$1.6M. Consistent with the \$0.04/kwh ANM PBI scenario described above that would support the establishment of 20MW of solar facilities per year. Significantly more RE generation could be supported if Utility Wholesale RES funds were made eligible for use by ANM customers in 2011 and future REST plans.

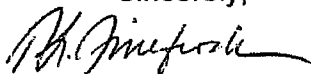
Ratepayers are facing significant increases in costs due to imminent federal carbon penalties (about \$0.012 to \$0.025/kwh for TEP predominantly coal based generation) and water supply costs; According to the TEP Irvington Road power plant manager, TEP loses to evaporation from 1/2 to 3/4 gallon of water/kwh; TEP 2010 REST plan indicates that TEP will sell 9.5 billion kwh this year, forecasts a 1.5% annual increase, which equates to use of about 4.8 to 7.1 billion gallons of water during 2010.

In addition to the already debated and established "avoided cost benefits" provided by distributed solar electric facilities I have attached a summary of expected benefits to be provided by the large scale implementation of RE/Solar facilities enabled by ANM. Establishment of sustained and significant demand for solar projects via ANM will provide jobs, motivate solar product/service providers to locate in Arizona, generate needed tax revenues and avoid or mitigate the need to increase fees/taxes, accelerate continued significant solar cost reductions making Solar residential affordable for more residents, accelerate achievement of the ACC RE 15% goal and potentially eliminate or significantly reduce the need for or amount of local subsidy in three to five years.

Although we label our funding sources differently, as Ratepayers & Taxpayers, they are simply "different pockets in the same pair of pants". I believe that ANM provides an incredible opportunity to leverage existing funds and assets, avoid rate and tax increases, significantly transform our local economy and provide enormous benefits to our primary constituents. It is critical that we all work to rapidly, efficiently and coherently establish a significant amount of Solar facilities to offset the carbon penalties and to mitigate our looming water supply and consequent cost issues. Customers with "skin in the game" have a vested interest and significantly more motivation to"get solar steel in the ground".... than do our Utilities.

Hopefully this information clarifies several of the concerns and responses discussed at the May 13th, 2010 ACC Open Meeting. If desired, Pima County would be willing to create and make an introductory presentation to commence the ANM workshop. Should you desire further discussion or clarifications please contact me.

Sincerely,



Mr. Terry Finefrock
Chief Contracts & Procurement Manager
Pima County, Tucson, AZ

Attachment: 1 page, Benefits of Large Scale PV Solar

Distribution:

C.H. Huckelberry, Pima County Administrator

Tedra Fox, Pima County Sustainable Community Manager

BENEFITS OF LARGE SCALE PV SOLAR PROJECTS BY LOCAL GOVERNMENTS

COST & REVENUE BENEFITS INCLUDE

- **Benefits would be Statewide, distributed, available to all Communities**
- **Fixed operational electricity costs for 30-years**
Pima County & City of Tucson purchase about 330 Million KWH/year; 165MW
Per US DOE historical national utility price increases average 4.7%/year
- **Job & Associated Tax Revenue Creation**
Re-employ some of the 44% of higher wage Construction jobs lost January 2009-2010
Sustained Demand will attract Solar Component Manufacturers to Locate to AZ
Leverage recent legislation providing tax waivers to employers locating to AZ
- **Provide "green" power offsets to pending Carbon Penalties**
Will be charged to all Utility Customers; + 10 to 30% of current rates; \$0.01 to \$0.03/kwh
- **Productive Use of Ratepayer(= Taxpayer) RES funds to Control Taxes/Government Operational Costs**
At >5MW, can PPA at \$0.12/kwh and fund \$0.10/kwh with current expense budgets (taxes) and(only) \$0.02/kwh with Ratepayer(Taxpayer) Renewable Energy Surcharges; 1MW typically subsidized at \$0.16 to \$0.18/kwh; Sustained & phased demand will enable future PPA Price/kwh decreases and eliminate need for subsidy within a few years
- **Leverage/Use of prior investments in Public lands/"wastelands" to site solar projects**
Adjacent/within Distribution grid; avoid transmission infrastructure costs and associated energy loss
- **Avoid/Mitigate Use of Precious Water resources and associated costs to Taxpayers/Ratepayers**
AZ Utilities use BILLIONS of gallons of water per year to generate Brown Power (1/2 to 3/4 gallon/kwh); Photovoltaic's use none/little, to wash module surface; TEP 5 to 7 Billion gallons for 2010 Sales plan; Demand higher than supply will increase costs & price; Not desirable to have to compete energy with other use
- **Avoid/Mitigate Brown Power air pollution, fines, remediation and respiratory healthcare costs**
- **Rapid & Efficient Implementation and Sustained Demand by few high use Utility Customers**
Sustained demand will support component cost reduction and development of efficient system contracting, permitting, local installation services, and processes; will significantly reduce cost of and enable expanded deployment of Residential systems; accelerate achievement of ACC RE goal and elimination of need for local subsidies

NECESSARY ENABLING ACTIONS

Approve requested revisions to Arizona Corporation Net Metering & Renewable Energy Surcharge hard allocation rules.

- **Net Metering:(ACC Docket#07-0608) Allow Local Governments to utilize public land to establish large scale facilities remote from their multiple loads (meters) and credit that power to their many meters/account(s). The desired *Aggregated Net Metering* functionality is described by Pima County/C. Huckelberry letters to the Arizona Corporation Commission dated 2/18/2009 and 11/5/2009 attached to Net Metering Docket #07-0608.**
- **Provide priority regarding the award/use of local RES subsidies for large scale solar electric projects to local governments**